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IBM CORPORATION (RHF) C/O ROBERT H. FRANTZ P. O. BOX 23324 OKLAHOMA CITY, OK 73123			MILLER, ALAN S	
			ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/824,808	Applicant(s) ERNEST ET AL.	
	Examiner ALAN MILLER	Art Unit 3624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 January 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 14,40 and 41 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 14,40 and 41 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>1/25/10</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This action is in response to the amendment filed 1/25/2010.

Claims 14, 40 and 41 are pending and have been examined; claims 42 and 43 have been cancelled.

This action is FINAL.

Response to Amendment

2. Examiner notes the amendments to claims 14, 40 and 41, and the cancellation of claims 42 and 43. In light of the amendments to claims 14 and 40, the previous 35 U.S.C. 101 rejection has been withdrawn.

In the prior Office Action, the Examiner took Official Notice that “that determining ratings of actual performance versus expected performance for attributes such as turnaround time was Old and Well Known at the time of the invention ”, and that “that a table of vendors ranked according to certain criteria was Old and Well Known at the time of the invention”. The MPEP states "To adequately traverse such a finding, an applicant must specifically point out the supposed errors in the examiner's action, which would include stating why *the noticed fact* is not considered to be common knowledge or well-known in the art." (emphasis added) (see MPEP 2144.03). . Therefore the Applicant has failed to adequately traverse the Examiner's use of Official Notice. The MPEP goes on to say "If applicant does not traverse the examiner's assertion of official notice or applicant's traverse is not adequate, the examiner should clearly indicate in the next Office action that the common knowledge or well-known in the art statement is taken to be admitted prior art because applicant either failed to traverse the examiner's assertion of

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official notice or that the traverse was inadequate." Therefore, determining ratings of actual performance versus expected performance for attributes such as turnaround time was Old and Well Known at the time of the invention ", and that "that a table of vendors ranked according to certain criteria was Old and Well Known at the time of the invention" is taken to be admitted prior art.

Response to Arguments

- 35 U.S.C. 112 1st paragraph:

3. Applicant, on pages 8 – 9 and pages 11 – 12 of the Remarks filed 1/25/2010, argues that Applicant's specification discloses a "grid computing control system" in that it is the same as the "Grid Management System", and further that it mentions the "grid computing control system" in the conclusion of the specification. Examiner has found this argument persuasive, and will hereinafter equate the "grid computing control system" in the claims to be the "Grid Management System" in Applicant's specification.

In response to the 112 1st paragraph rejections of claims 14, 40 and 41, with respect to the subject matter "self-reporting Online Transaction Processing computing systems" and "jobs completed by said self-reporting Online Transaction Processing computing resources" that Examiner was unable to find, Applicant's amendments filed on 1/25/2010 have made these previous rejections moot, and, due to Applicant's amendment, these particular 112 1st paragraph rejections of claims 14, 40 and 41 are withdrawn.

In response to the 112 1st paragraph rejections of claims 14, 40 and 41, with respect to the subject matter "analyzing by said computing control system performance requirements

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corresponding to said completed jobs” and “selecting by said grid computing control system... according to said resource rating table” that Examiner was unable to find, Applicant’s arguments equating a “grid computing control system” to the “Grid Management System” have been found persuasive, and thereby render this rejection moot. Therefore, these particular 112 1st paragraph rejections of claims 14, 40 and 41 are withdrawn.

Applicant’s arguments, see pages 7 and 8, filed 1/25/2010, with respect to 112 1st paragraph rejections of claims 14, 40 and 41 in regards to the limitation "updating a grid resource rating table" have been fully considered and are persuasive.

- 35 U.S.C. 112 2nd paragraph:

4. The previous 112 2nd paragraph rejections of claims 14, 40 and 41 are withdrawn in response to Applicants amendments to the claims and further Applicant’s statements on pages 2 and 3 of Applicant's remarks filed 1/25/2010.

- 35 U.S.C. 103:

5. Applicant's arguments filed 1/25/2010 in regards to the 35 U.S.C 103 rejections have been fully considered but they are not persuasive.

Applicant states, in pages 15 - 18 of Applicants remarks:

- **A1-Theneyan Pg. 27, lines 1 - 2:**

•.. A ranking mechanism, based on the application constraints, is used to select the best resource when multiple resources satisfy the request.

Please note that the "ranking mechanism" and "ranks" are not described in any further detail in A1-Theneyan.

Examiner respectfully disagrees. It is unclear what Applicant is attempting to argue in this statement, since the term 'ranking' is not used in Applicant's claims, nor has that section been relied upon for Examiners rejections of claims 14, 40 and 41.

- **A1-Thenevan Pg. 29, lines 15 - 16:**
 - .. **The user selects a resource based on the availability at the job preparation time ...**
Please note that we interpret "at the job preparation time" to mean "current", not historical.

Examiner respectfully disagrees. Examiner notes that this section, pg. 19, lines 15 – 16, is under the heading 'Chapter II, Related Work', and is in reference to a system called UNICORE, and is included in the works to show why PROBE is a better alternative (page 16, lines 16 and 17). Further, Examiner did not rely upon this disclose in the prior rejection. Examiner relied on pages 7 and 8, and further pages 12 - 14, page 62 and pages 171 -172.

- **A1-Thenevan P~. 47, line 9:**
 - .. **A queuing algorithm selects the next job to schedule.**
Please note that we interpret a "queuing algorithm" to be different that a selection algorithm using historical performance.

Examiner respectfully disagrees. Applicant has provided no evidence or rational to support Applicant's interpretation. Further, Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

- **A1-Thenyan Pg. 48 lines 21 - 22:**

- .. **To support prediction, the Resource Repository keeps some historical performance information about the resources**

Please note that "prediction" here is referring to "load prediction", which is not the same as selection of a resource based on historical performance:

- A1-Thenyan Pg. 60 line 10:**

- * resource load is predictable;**

Examiner respectfully disagrees. Examiner notes that the section that Applicant refers to make the case that the prediction is 'load prediction', page 60, line 10, reads “Most of the existing efforts suffer from limitations such as: ... resource load is predictable”. This is not evidence that ‘prediction here is referring to 'load prediction’, which is not the same as selection of a resource based on historical performance’.

- **A1-Thenyan Pg. 85 lines 25 - 27:**

- .. **For example, in [105], all resources are assumed to be dedicated and their loads are predictable, and tasks are assumed to be profiled where resource usage can be estimated in advance•**

Examiner respectfully disagrees. Again, Examiner notes that the recited portion of A1-Thenyan, pg. 85, 25 - 27, is taken out of context and, in context, is referring to existing efforts and not the claimed PROBE. The paragraph in which the line resides reads “Most existing efforts focus on resolving this issue by making some assumptions that might restrict the usage of the underlying grid system. For example, in [105], all resources are assumed to be dedicated and their loads are predictable, and tasks are assumed to be profiled where resource usage can be estimated in advance, We believe such restrictions do not encourage either the resource provider or the resource consumer to use the underlying grid.” This is not evidence that ‘prediction here

is referring to 'load prediction', which is not the same as selection of a resource based on historical performance'.

In regards to Applicant's further statements on page 17, Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

In response to Applicant's arguments on page 18 in regards to the enablement of the Al-Theneyan reference, MPEP 2121 [R-6] states:

Prior Art; General Level of Operability Required to Make a Prima Facie Case.

I. PRIOR ART IS PRESUMED TO BE OPERABLE/ENABLING

When the reference relied on expressly anticipates or makes obvious all of the elements of the claimed invention, the reference is presumed to be operable. Once such a reference is found, the burden is on applicant to provide facts rebutting the presumption of operability. In re Sasse, 629 F.2d 675, 207 USPQ 107 (CCPA 1980). See also MPEP § 716.07.

II. WHAT CONSTITUTES AN "ENABLING DISCLOSURE" DOES NOT DEPEND ON THE TYPE OF PRIOR ART THE DISCLOSURE IS CONTAINED IN

The level of disclosure required within a reference to make it an "enabling disclosure" is the same no matter what type of prior art is at issue. It does not matter whether the prior art reference is a U.S. patent, foreign patent, a printed publication or other. There is no basis in the statute (35 U.S.C. 102 or 103) for discriminating either in favor of or against prior art references on the basis of nationality. In re Moreton, 288 F.2d 708, 129 USPQ 227 (CCPA 1961).

III. EFFICACY IS NOT A REQUIREMENT FOR PRIOR ART ENABLEMENT

A prior art reference provides an enabling disclosure and thus anticipates a claimed invention if the reference describes the claimed invention in sufficient detail to enable a person of ordinary skill in the art to carry out the claimed invention; "proof of efficacy is not required for a prior art reference to be enabling

for purposes of anticipation." *Impax Labs. Inc. v. Aventis Pharm. Inc.*, 468 F.3d 1366, 1383, 81 USPQ2d 1001, 1013 (Fed. Cir. 2006). See also MPEP § 2122.

Examiner further notes that in the Abstract of Al-Theneyan, it discloses "We have implemented a prototype of PROBE to demonstrate feasibility". See also at least pages 13, 15, 34, 44, 135 which disclose a PROBE prototype.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims **14, 40 and 41** are rejected under 35 U.S.C. 103(a) as being unpatentable over Al-Theneyan, Ahmed Hamdan, ("A Policy-Based Resource Brokering Environment for Computational Grids" (2002) Ph.D. dissertation, Old Dominion University, United States – Virginia; hereinafter Al-Theneyan) in view of Official Notice.

In respect to claims **14, 40 and 41**, Al-Theneyan discloses:

receiving by a grid computing control system one or more grid resource self-reports from one or more self-reporting computing resources in a grid computing environment; (see at least page 12, which discloses a *Resource Monitor* that keeps track of the current status of the resources and updates the *Resource Repository*, page 49 which discloses The *Resource Monitor*

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keeps track of the current status of the resources. It updates the *Resource Repository* and the *Policy Enforcement Manager* frequently with up-to-date information about the resources. The *Resource Monitor* supports different approaches for monitoring the status of the resources. This includes the *Push Mode* approach where the daemon that resides on the resource sends (i.e. *self-reporting resource*) the required information (i.e. *self-reports*) to the *Resource Monitor* (i.e. *receiving by a grid computing control system one or more grid resource self-reports from one or more self-reporting Online Transaction Processing computing resources in a grid computing environment*). See also page 64, which discloses Resource Monitoring);

receiving by the grid computing control system one or more job results from a grid resource job results manager system corresponding to jobs completed by the self-reporting computing resources;(see at least page 12, which discloses a *Resource Monitor* that keeps track of the current status of the resources and updates the *Resource Repository*, the *Resource Repository* maintains up-to-date information and historical performance information about all the available resources; see also page 65, which discloses the *Job Monitor* monitors the execution of the currently running jobs on the resources of the system (i.e. *receiving by said grid computing control system one or more job results from a grid resource job*));

analyzing by said grid computing control system said received job results and said received self-reports against client-driven Service Level Agreement performance requirements corresponding to said completed jobs (see at least page 66, which discloses SLA Monitoring Agent, which keeps monitoring the associated policies and takes appropriate actions in case of violations).

Al-Theneyan does not explicitly disclose determining one or more sub-ratings selected from at least one of (i.e. a group comprising of) percentage of jobs completed, percentage of jobs completed within specified time constraints, an interactiveness rating, and a cost compliance rating.

Examiner notes that determining ratings of actual performance versus expected performance for attributes such as turnaround time (i.e. disclose *determining one or more sub-ratings selected from a group comprising percentage of jobs completed within specified time constraints*), was Old and Well Known at the time of the invention (see at least Benjamin et al. (U.S. Patent Publication 2002/0107723), Tables 1 – 7 and ¶0050).

It would have been obvious to one of ordinary skill in the art to include in the SLA Monitoring Agent and Resource Repository of Al-Theneyan, old and well known ratings of actual performance versus expected performance for attributes, since the claimed invention is merely a combination of old elements, and one of ordinary skill in the art would have recognized that it would produce a predictable result of having historical performance statistics stored in the Resource Repository for later use by the Policy Enforcement Manger to the appropriate resource(s) that can match the client's request.

Al-Theneyan further discloses a Resource Repository, wherein the Resource Repository maintains up-to-date information and historical performance information about all the available resources (see at least page 12; see also pages 48 – 49, which discloses the *Resource Repository* maintains up-to-date information about all the available resources in the system. To support prediction, the *Resource Repository* keeps some historical performance information about the

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resources. For the sake of scalability and high availability, we can have distributed *Resource Repositories* with each having its own set of resources);

Al-Theneyan also does not explicitly disclose producing and updating a grid resource rating table having said sub-ratings rank-ordered according to a weighted analysis of said sub-ratings for each resource vendor.

Examiner notes that a table of vendors ranked according to certain criteria was Old and Well Known at the time of the invention (see at least Shoquist et al. (U.S. Patent 5,361,199), column 6, lines 50-59, FIG.10).

It would have been obvious to one of ordinary skill in the art to include in the SLA Monitoring Agent and Resource Repository of Al-Theneyan, old and well known ratings in a table for each resource vendor ,since the claimed invention is merely a combination of old elements, and one of ordinary skill in the art would have recognized that it would produce a predictable result of having historical performance statistics stored in the Resource Repository in a table format, and by vendor, for later use by the Policy Enforcement Manger to the appropriate resource(s) that can match the client's request.

Al-Theneyan further discloses subsequently selecting by the grid computing control system an available grid resource server in the grid computing environment from a plurality of available grid resource servers according to the grid resource rating table; and assigning a subsequently requested job to the selected grid resource server wherein the selection and assignment is performed according to historical performance against client-driven performance requirements per the grid resource rating table. (see at least pages 7 and 8, which discloses *Resource Allocation*, which is responsible for allocating resources to various tasks of an

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application...Broker Controlled Allocation is when the resource brokering environment decides for the client based on some client specified constraints, and further discloses based on some historical performance information, the resource brokering environment should be able to predict the performance each resource is going to deliver at the time of the allocation (i.e. *wherein said selection and assignment is performed according to historical performance against client- driven performance requirements*); see also pages 12 - 13, that discloses the *Resource Broker* is the component that allocates resources based on client's requirements, and further discloses that the *Resource Broker* consults with the *Policy Enforcement Manager*, which then tries to find the appropriate matched resource(s) and returns the set to the Resource Broker (i.e. *selecting by said grid computing control system an available grid resource server in said grid computing environment from a plurality of available grid resource servers according to said grid resource; and assigning an Online Transaction Processing job to said selected grid resource server*); see also page 62, which discloses PROBE employs a policy based approach for resource brokering that attempts not only to match the user's request with the right set of resources, but also ensure the guaranteed level of the allocation. When requested, the *Policy Enforcement Manager* finds the appropriate resource(s) that can match the client request and gives them to the *Resource Broker*; see also pages 171 - page 172, which discloses Predictor, which predicts the future performance of resources based on historical performance information that is provided by the Resource Repository. When the Policy Enforcement Manager tries to find the appropriate resource(s) that can match the client's request, it would rely on the summarized data being generated by the Predictor so that it can match the best resource(s). Prediction is going to help in minimizing SLA violations and thus reduce the resulting penalties a resource provider has to pay

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in case of violations. Therefore, Al-Theneyan discloses subsequently selecting by the grid computing control system an available grid resource server in the grid computing environment from a plurality of available grid resource servers according to the grid resource rating table; and assigning a subsequently requested job to the selected grid resource server wherein the selection and assignment is performed according to historical performance against client-driven performance requirements per the grid resource rating table).

In further respect to claim **41**, Al-Theneyan discloses a 733 MHz PIII PC (page 137), (i.e. grid computing controller).

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. Benjamin et al. (U.S. Pub. 2002/0107723) discloses determining ratings of actual performance versus expected performance for attributes such as turnaround time
- b. Shoquist et al. (U.S. Patent 5,361,199) discloses a table of vendors ranked according to certain criteria.
- c. Leff, Avraham, Rayfield, James T., Dias, Daniel M. "Service-Level Agreements and Commercial Grids." IEEE Internet Computing (July-August 2003): Pages 44-50. Discloses monitoring and enforcing SLAs (Page 48-49).
- d. Bartz et al., (U.S. 6,701,342) discloses Method and apparatus for processing quality of service measurement data to assess a degree of compliance with service level agreements.

- e. Aycock et al. (U.S. Patent 5,765,138) discloses interactive evaluation of potential vendors.
- f. Lidow (U.S. Patent Pub. 2002/0019761) discloses supply chain architecture and forecasts compared to contractual agreements.
- g. Spencer (U.S. Patent 6,356,909) discloses automated responses to and evaluations of request for proposals.
- h. Elnozahy et al. (U.S. Patent Pub. 2002/0077836) discloses verification of service level agreements.

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALAN MILLER whose telephone number is (571)270-5288. The examiner can normally be reached on Mon - Fri, 10:00am - 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, BETH BOSWELL can be reached on (571) 272-6737. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/A. M./
Examiner, Art Unit 3624

/Andre Boyce/
Primary Examiner, Art Unit 3623